

Measuring chambers 8 mm

9803 509 5020 .

9803 509 5120 .

9890 000 016 ..

FILING INSTRUCTIONS

File this documentation in binder:

UNIT manual generator

UNIT manual Compact DIAGNOST 1

Philips Medical Systems

SERVICE MANUAL

742

UNIT

Measuring chambers 8 mm

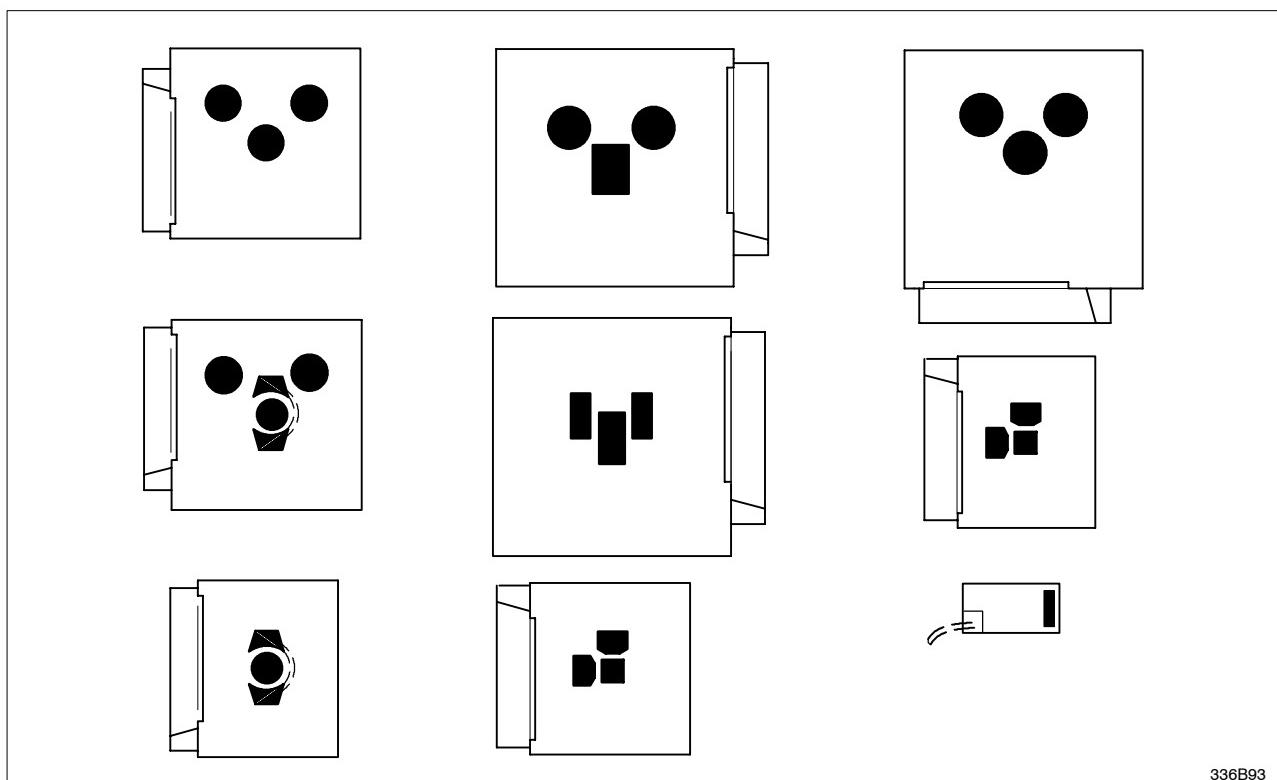
9890 000 0161 . /	9890 000 0162 .
9890 000 0163 . /	9890 000 0164 .
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9890 000 0167 . /	9890 000 0168 .
9803 509 5020 . /	9803 509 5120 .

Measuring chamber cables

9803 507 0 . . 02 / 9890 000 017 ..

Adapter AMPLIMAT cable, 3-plus connector to sub-D connection

9890 000 02331



Ionization measuring chambers 8 mm for connection to AMPLIMAT exposure controls

DMC Hamburg

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SERVICE MANUAL - UNIT

Measuring chambers 8 mm

Author: G. Kramm

Measuring chamber cables

Adapter AMPLIMAT cable, 3-plus to sub-D connection

Type No: 9890 000 0161 . / 9890 000 0162 .

Type No: 9890 000 0163 . / 9890 000 0164 .

Type No: 9890 000 0165 . / 9890 000 0166 .

Type No: 9890 000 0167 . / 9890 000 0168 .

Type No: 9803 509 5020 . / 9803 509 5120 .

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In case there are any questions concerning this manual,
please send this LOPAD via fax to 49/(0)40/5078 2481

File: measuring chambers 8mm_74223AC

List of pages and drawings (LOPAD)

Manual Order No: 4512 101 74223
released: 08/2004

0.5 223 mm (Rosa Karton)

1

2

3...6 (a/03.0)

Z- 1 (a/03.0) A4

Z- 2 (a/03.0) A4

Z- 3 (95.0) A4

Z- 4 (88.0) A4

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1. Ionization measuring chambers 8 mm

Ionization chambers are measuring elements for the automatic exposure control (Amplimat). For different versions refer to Z-2.

Z-1 shows a general schematic amplifier diagram. However, repair work is practically impossible.

2. Measuring chamber cables for 8 mm chambers and adapter AMPLIMAT cable

For the different connections between AMPLIMAT and measuring chamber refer to Z-5.

2.1. Measuring chamber cable for generators MCM / SCM / MEDIO CP/ SCP / Power Part OMCP

9803 507 0 . . 02

		length:
0	8	8 m
1	2	12 m
1	6	16 m
2	0	20 m
2	4	24 m
2	8	28 m

2.2. Measuring chamber cable for generator OPTIMUS

9890 000 017 . .

		length:
2	1	12 m
3	1	16 m
4	1	20 m
5	1	24 m

2.3. Adapter for chamber cable 9890 000 0233.

This adapter prepares the AMPLIMAT in OPTIMUS generators to older measuring chambers requiring +40 V to +45 V for operation.

This adapter also establishes connection between plugs Sub-D —— 3 plus (3+).

For principle refer to Z-5.

3. Installation

The illustration on Z-2 shows the more sensitive position, provided the plan view is the radiation entry plane.

If the chamber is installed the other way round (entrance of radiation from behind), the sensitivity is reduced by about 18%.

3.1. Installation of 8 mm chambers in 16 mm frames (see Z-4)

- Install the ionization chamber electrically insulated.

For Philips bucky trays use 4 spacing strips (code No. 4512 102 19901)
or 4 spacing strips (code No. 4512 103 06021).

3.2. Connection of the 8 mm measuring chambers (see Z-3)

Caution!

With older measuring chambers only 1 earth conductor was needed.

Therefore connection

PH109 —— Amplimat N

was not established and served as a reserve wire only. When more recent measuring chambers are installed this connection must be established for otherwise the field selection does not work.

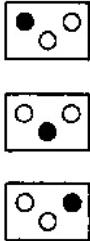
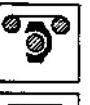
3.3. Sensitivity changeover of the junior DIAGNOST/extremity measuring chamber

For exposures with intensifying screen do not connect 101 PH; high sensitivity.

- For screenless films raise the capacity of the integrating capacitor by activating 101 PH (S2).

4. Checking the order of the measuring fields and checking them for proper operation

The measuring fields are activated as follows:

measuring chamber	button or automatic	field	connector 14 - pole amplimat	colour of cable	connector of measuring chamber	field No. of measuring chamber	dominant
bucky		L	A	white/black	101	1	
		M	D	red	102	2	
		R	H	violet	103	3	
scopomat	automatic	L	A	white/black	101	1	
	automatic	M	D	red	102	2	
	automatic	R	H	violet	103	3	

to avoid wrong activation an exchange of leads A/H is necessary for SCOPOMATIC chambers in MAXIMUS CM, SUPER CM, MEDIO CM and SUPER CP generators: white/black → H, violet → A.

201B93

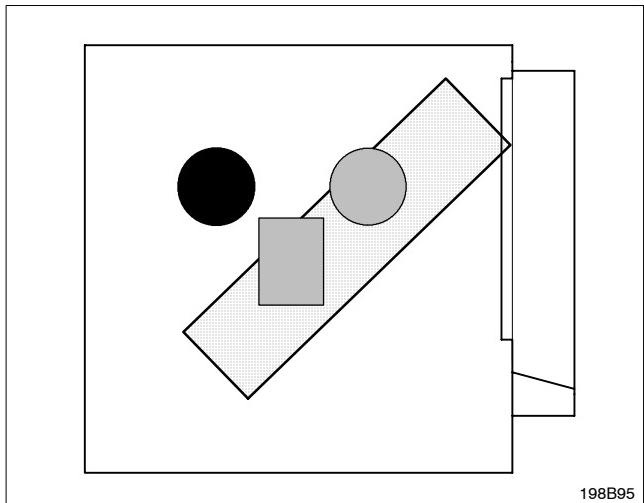
Check of functions

1...2 mm thick lead cover strip of 80 x 300 mm size required.

- Select exposure voltage 40 kV..60 kV.

4.1. 3-field measuring chambers

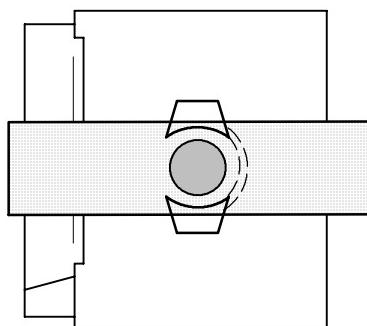
- Insert a large cassette.
- Select the left-hand measuring field.
- Cover the right-hand and medium measuring field.
- Switch an exposure.
The Amplimat terminates the exposure.
- Switch off left-hand measuring field.
- Select the right-hand field.
- Switch an exposure.
- The exposure must show a noticeably longer switching time.
- If not, exchange the connections
(101 PH and 103 PH) or A and H and repeat the check.
- Check the medium field in the same way.
- For operation of the pediatric Amplimat chamber bucky for children establish connection between A and H.



4.2. Measuring chambers for serial changers

4.2.1. Checking the medium field

- Insert a cassette.
- Switch an exposure with the stomach cone.
The Amplimat terminates the exposure.
- Cover the medium field horizontally.
- Switch an exposure.
The exposure is noticeably longer.



196B95

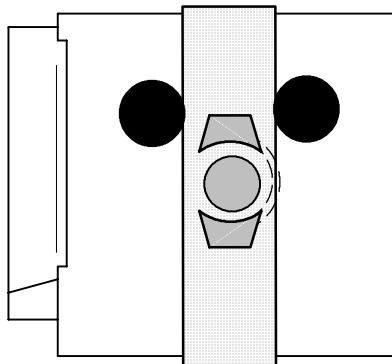
4.2.2. Checking the additional fields

The medium field remains covered up.

- Switch an exposure without cone.
The Amplimat terminates the exposure.
- Cover the medium and additional fields vertically.
- Switch an exposure.
The exposure is noticeably longer.

4.3. Checking the lateral fields

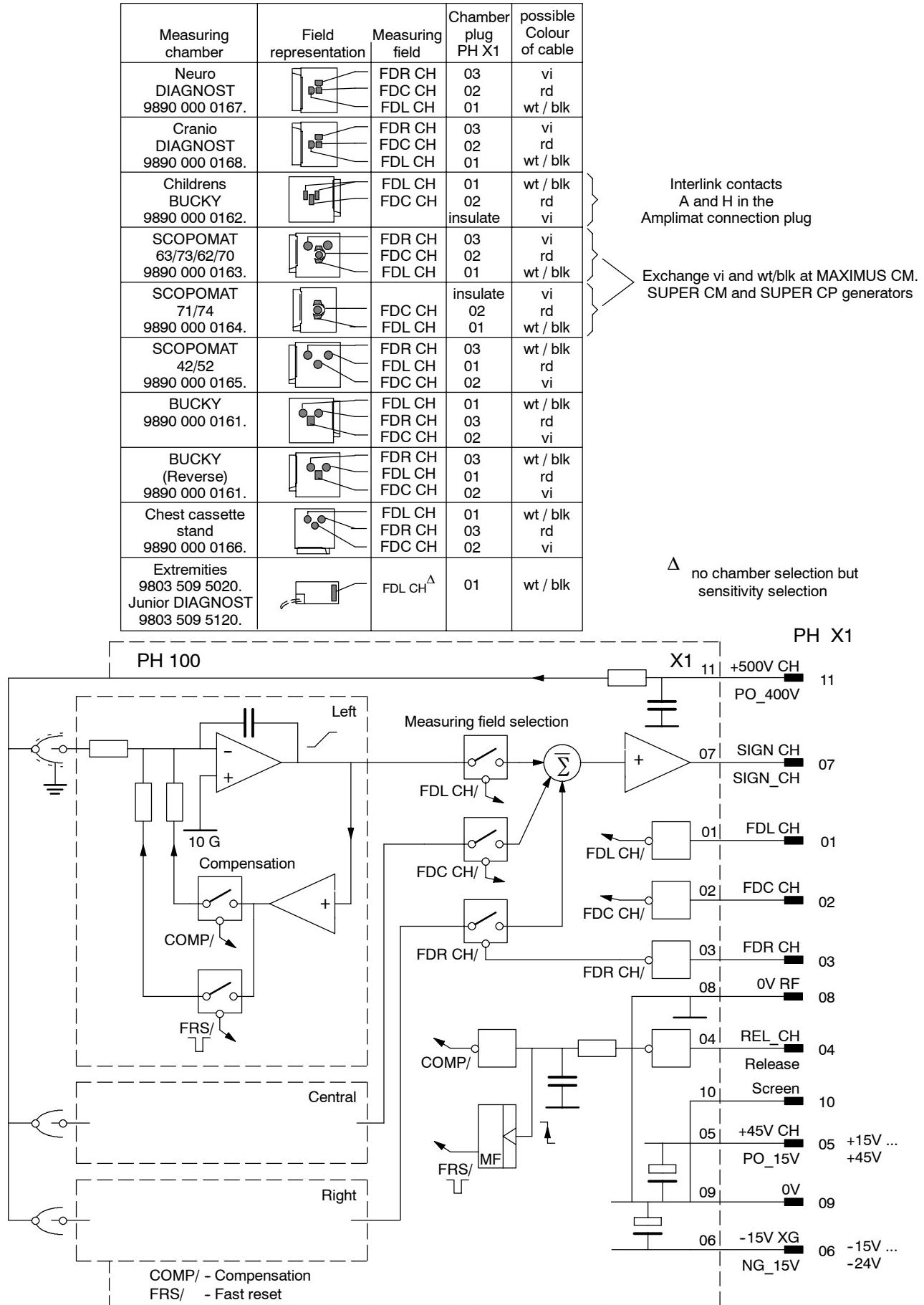
- Insert a large cassette.
- Cover the medium and additional fields vertically.
- Switch an exposure (full size).
The Amplimat terminates the exposure.
- Break in the oesophagus diaphragm.
- Switch an exposure.
The exposure is noticeably longer.



197B95

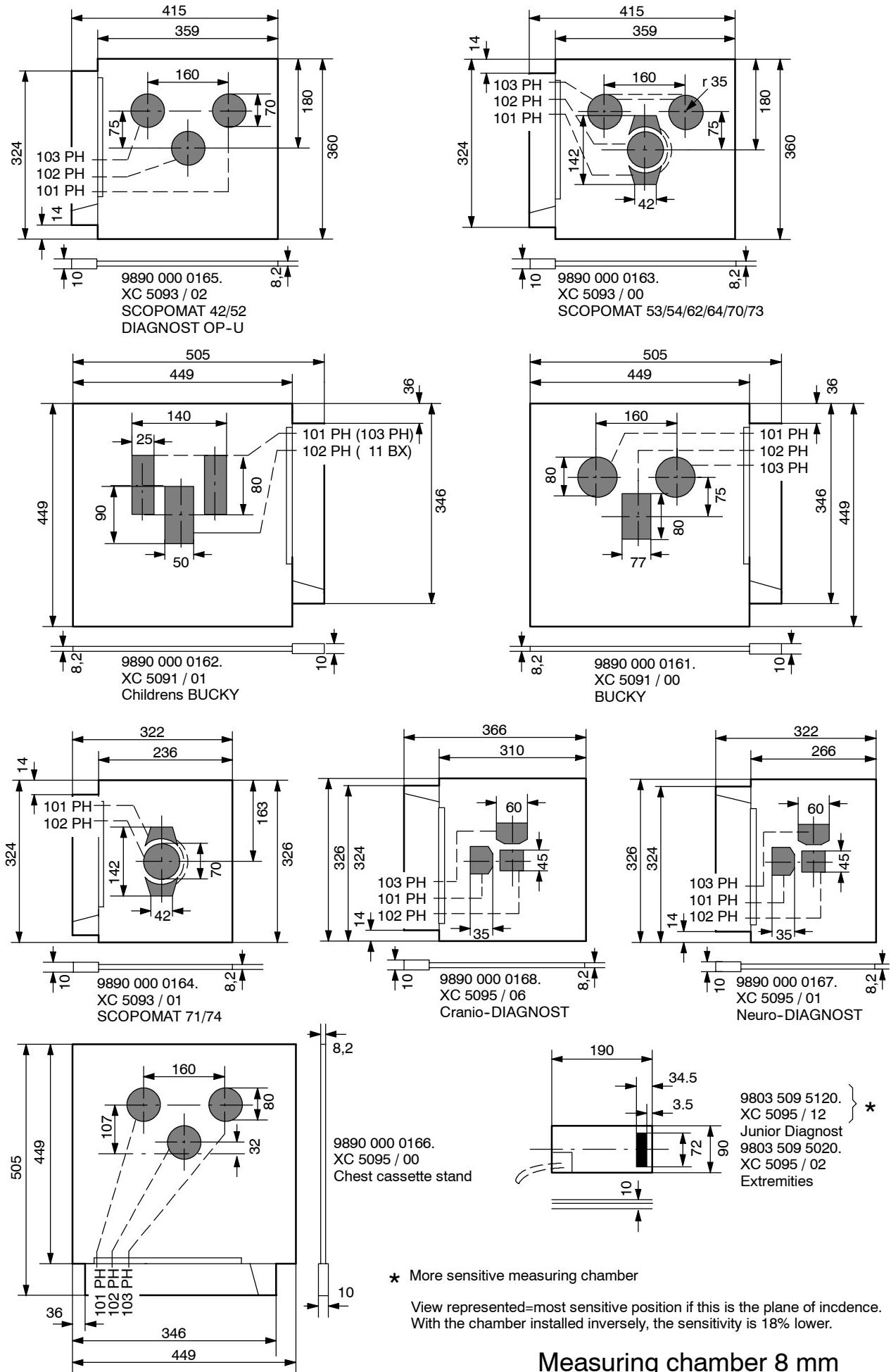
Ampl. measuring chamber

A4_03-05-13 Sie.
UNIT 9803 509 x0x02_Z1

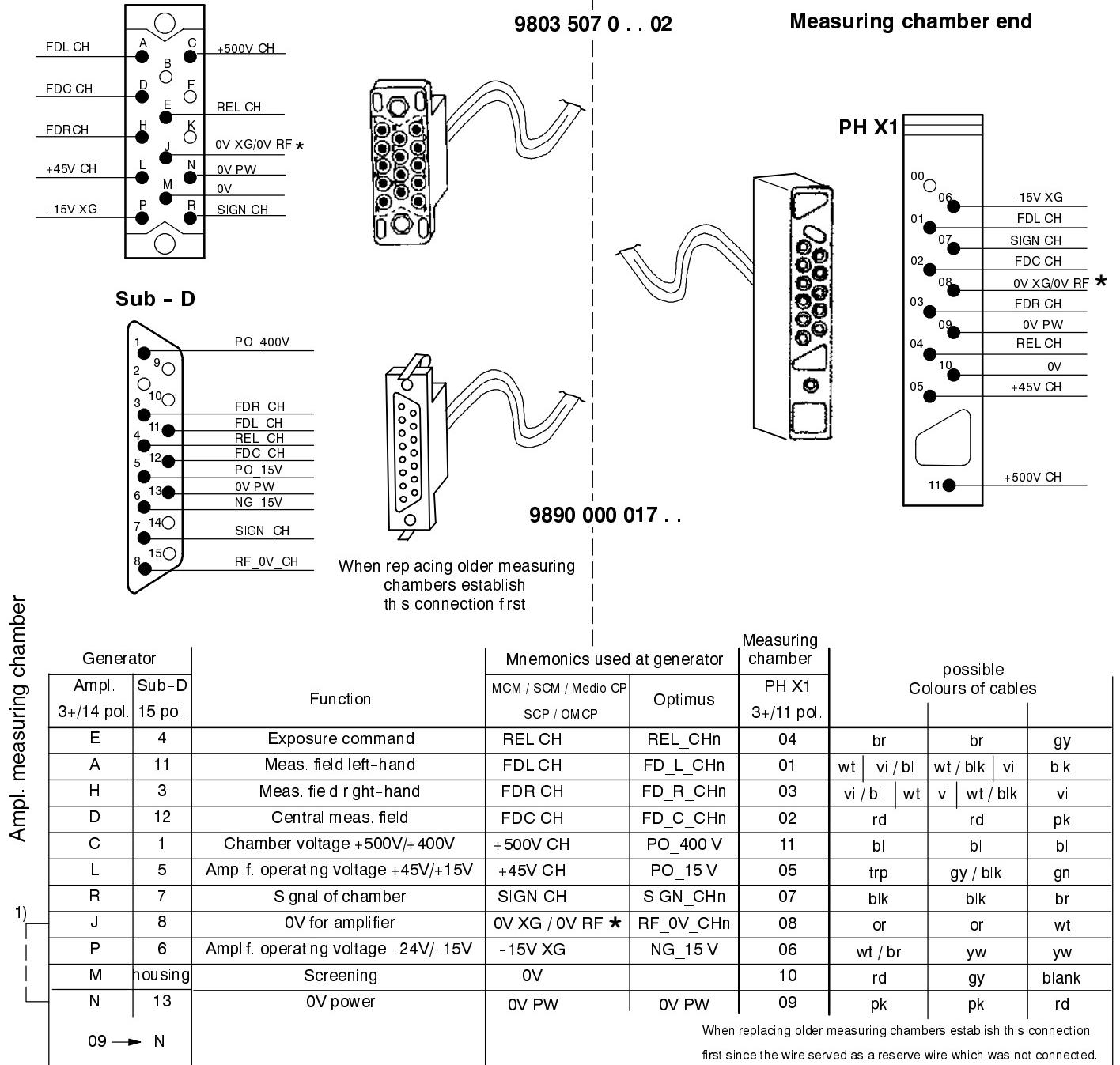


Amplifier of 8 mm measuring chamber
Circuit principle

Ampl.measuring chamber



Measuring chamber 8 mm



1) Pins 8 and 9 on PCB PH 100 connected.

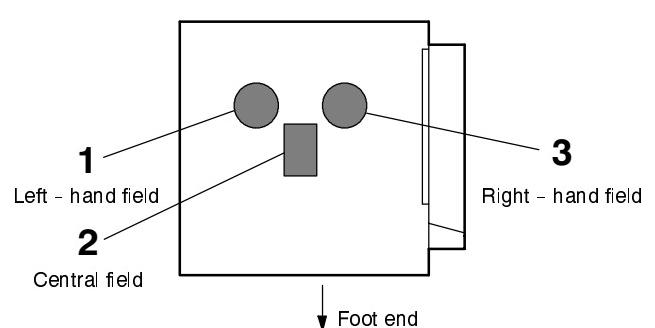
With over - table tube : look in the direction of radiation.

With serial changers and under - table tube : look towards the direction of radiation.

* SCP

() Colour code for earlier types of cables

bl = blue
 blk = black
 br = brown
 gn = green
 gy = grey
 or = orange
 pk = pink
 rd = red
 trp = transparent
 vi = violet
 wt = white
 yw = yellow

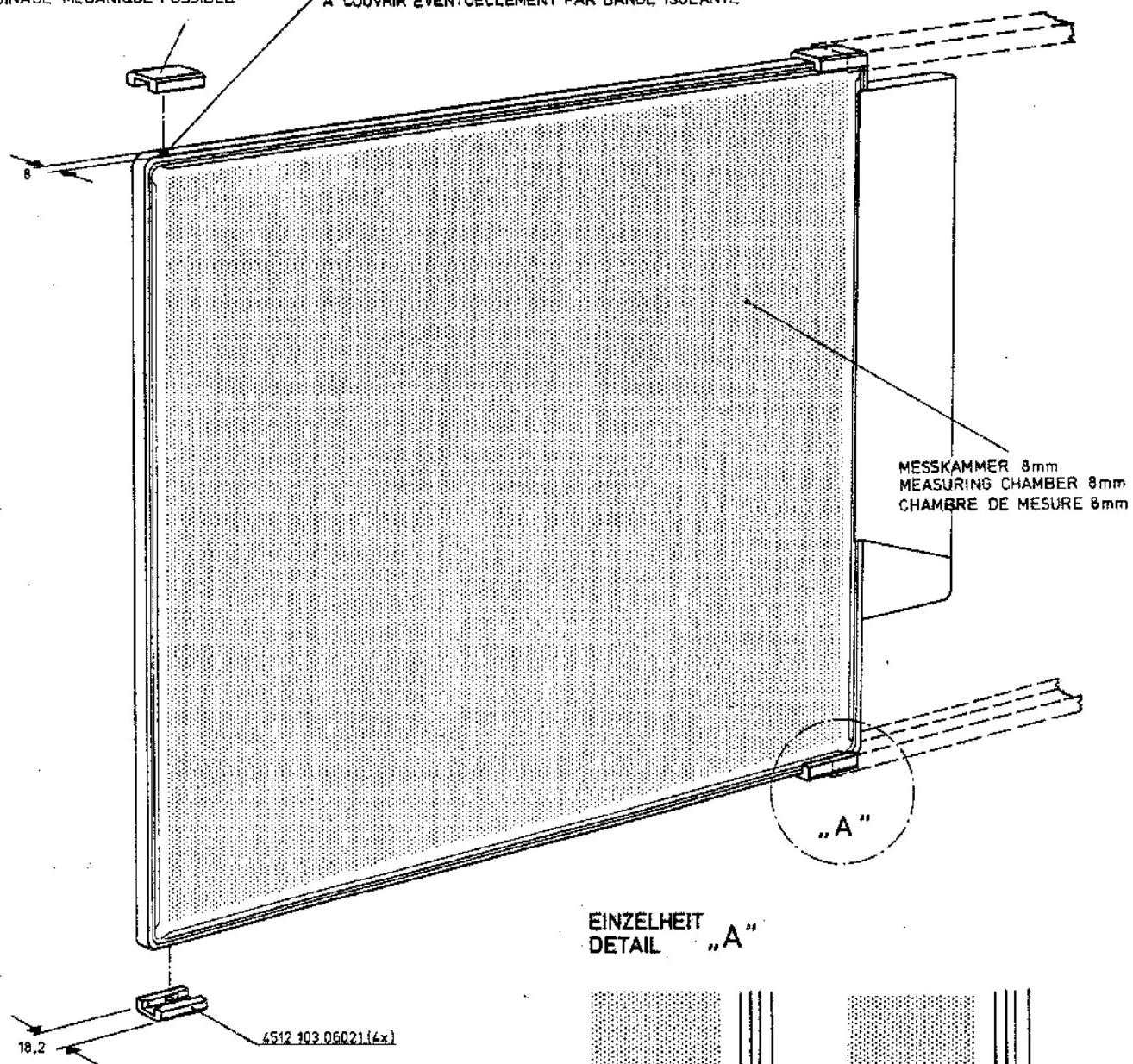


Measuring chamber cable

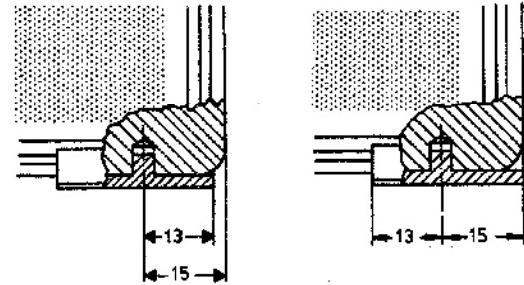
A3 / A4 88 08 09 RE

MECHANISCHE BEARBEITUNG MÖGLICH
MACHINING POSSIBLE
USINAGE MECANIQUE POSSIBLE

EVTL. MIT ISOLIERBAND ÜBERKLEBT
POSSIBLY COVERED WITH INSULATING TAPE
A COUVRIR EVENTUELLEMENT PAR BANDE ISOLANTE



EINZELHEIT
DETAIL „A“



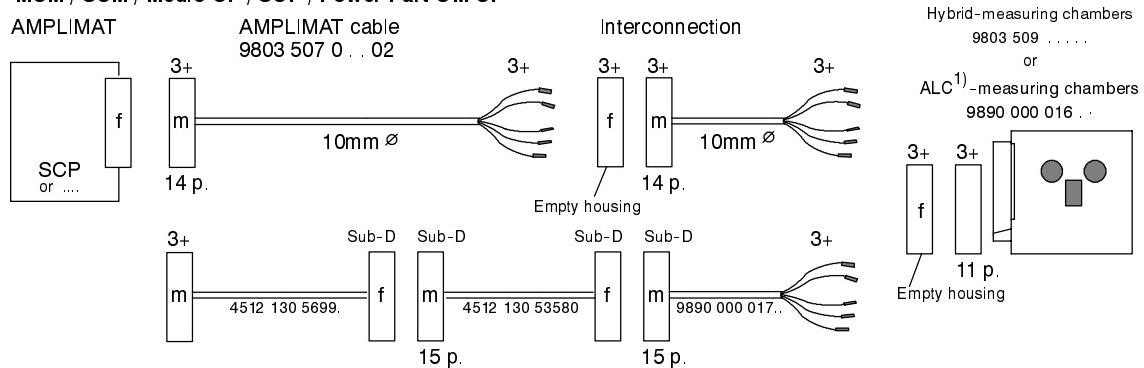
MEASURING CHAMBER WITH SPACERS
MESSKAMMER MIT DISTANZSTÜCKEN
CHAMBRE DE MESURE AVEC PIÈCES
D'ÉCARTEMENT

INSTALLATION OF 8mm MEASURING CHAMBER IN 16mm FRAME
EINBAU VON 8mm MESSKAMMER IN 16mm RAHMEN
INSTALLATION D'UNE CHAMBRE 8mm DANS UN CADRE 16mm

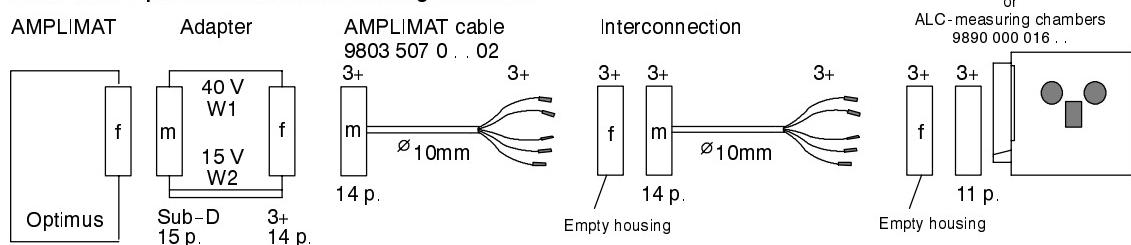
Connection versions AMPLIMAT-measuring chamber

interconnection only upon request.

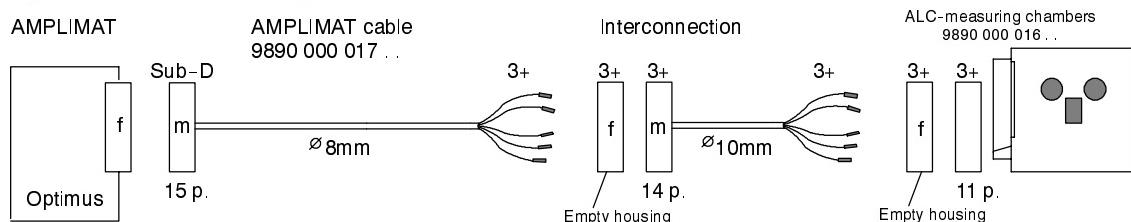
1. AMPLIMAT with 8mm measuring chambers to generators MCM / SCM / Medio CP / SCP / Power Part OM CP



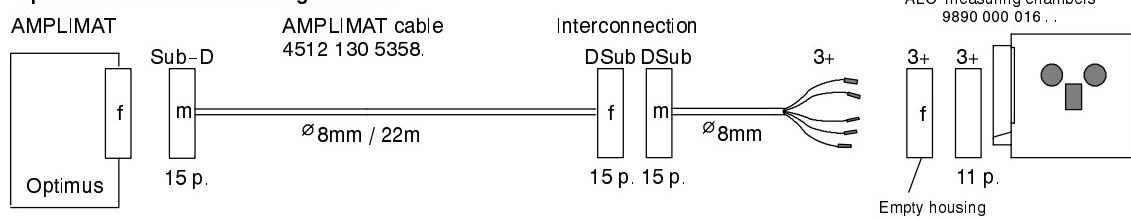
2. AMPLIMAT Optimus with 8mm measuring chambers



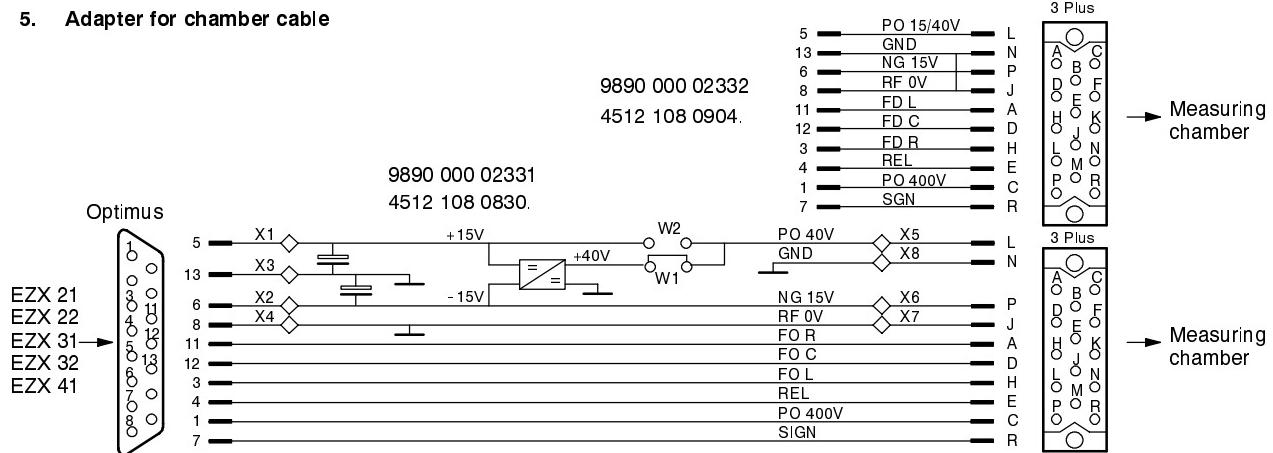
3. Optimus with ALC measuring chamber



4. Optimus with ALC measuring chamber



5. Adapter for chamber cable



Hybrid-measuring chamber: Supply voltage is 40V to 45V and -15V to -24V
ALC measuring chamber: Supply voltage is 15V to 45V and -15V to -24V

- ¹⁾ ALC : Automatic leakage compensation
- ²⁾ f : female
- ³⁾ m : male

Connection versions
AMPLIMAT-measuring chamber